Reflection, Empathy, and Prosocial Behavior in Preschool-Age Children

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Introduction

Background:

- Empathy is a sense of connection and sharing of others' emotional states. As a motive of prosocial behavior, it plays an important role in developing and maintaining social relationships (Hoffman, 1989).
- Showing kindness towards others feels good, and can bring a sense of inner-strength. Thus, one method for helping children increase their overall levels of happiness, self-esteem, and develop meaningful interpersonal relationships is through supporting the development of empathy and prosocial behavior.
- Interventions that provide opportunities to reflect upon one's own thoughts and emotions have been shown to increase empathy (Jazaieri et al., 2014). Engaging in reflection requires the three core executive function (EF) skills of cognitive flexibility, working memory, and inhibitory control. Repeated reflection may strengthen and develop neural pathways involved with EF skills, resulting in behavioral changes (Zelazo, 2015).
- Reflective practices during sensitive, cognitive developmental periods could provide the key ingredient for increasing children's capacity to express empathy and engage in more prosocial behaviors.

Aim of this study:

The aim of this study was to elucidate the relation between children's EF skills and their prosocial sharing behavior. We assessed whether a behavioral manipulation, prompting children to reflect on another person's emotional state, would increase empathic concern, and subsequently affect children's decisions to allocate resources to a target recipient.

Predictions

Hypotheses 1:

Children who are prompted to use reflection will be more empathic and will share more resources than children who are not prompted to use reflection.

Hypothesis 2:

Older children will be more reflective, have better Executive Function skills, be more empathic, and as a result, share more stickers than younger children

Method

Participants:

- $N = 34$
- Ages: 3 to 4 years ($M = 47.38$ months, $SD = 4.68$)
- 52.8% Female
- Convenience Sampling

Materials and Procedure:

- Children were randomly assigned to the experimental ($n = 19$) or control ($n = 15$) condition.
- Children in both conditions participated in a prosocial sharing task, as well as a brief, standardized assessment of EF (Minnesota Executive Function Scale; Carlson & Zelazo, 2014).
- All children listened to 4 separate stories, accompanied with illustrations, and then distributed stickers between themselves and a target story character.
- Experimental condition: Children were prompted to use reflection and asked how the target recipient feels prior to distributing stickers.
- Control condition: children were asked a factual question about the recipient (e.g., hair color).

Variables:

Independent Variables: Age (3- and 4-years old), Condition (Experimental and Control)

Dependent Variable: Proportion of stickers that children shared among all four test trials (0-40).

Figure 1. Sample Illustrations that accompanied stories.

Helpful | Injured | Bully | Lonely

Illustrated by: Douglas Talalla

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Preliminary Analyses

- Independent *t*-tests were conducted, and showed that children in the experimental condition ($M = .38$, $SD = .19$) and control condition ($M = .42$, $SD = .09$) did not differ significantly in the total number of stickers shared with the target recipients, $t(32) = .77$, $p = .45$.
- Analyses also showed that 3-year-old children ($M = .42$, $SD = .15$) and 4-year-old children ($M = .37$, $SD = .16$) did not differ significantly in the total number of stickers shared with the target recipients, $t(32) = 1.03$, $p = .31$.

Figure 2. Proportion of stickers shared by condition

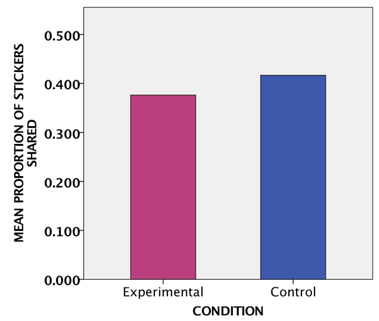
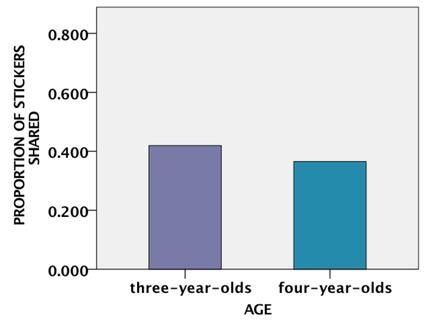


Figure 3. Proportion of stickers shared by age



Conclusion

- Results indicate that neither age or reflecting on another persons' emotional state influenced 3- and 4-year old children's prosocial sharing behavior in this task.
- However, a preliminary ANOVA was performed, which showed multiple interactions. While these interactions were not significant, a meaningful pattern might emerge with a larger sample size, and we could then examine whether this pattern is replicated in an independent sample of children.

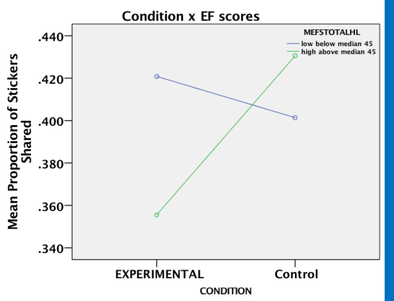


Figure 4. Interaction between EF scores and condition

- Of particular interest was that children with EF scores above the group median shared numerically fewer stickers in the experimental condition.
- Previous research has shown mixed results on the relationship between EF skills and children's prosocial behavior. This study was unique because it used reflection as a technique to help children be empathic and draw upon their EF skills during a prosocial decision-making task.
- Limitations to this study included a small sample size, which may have contributed to the non-significant results. Also, children were not given explicit instructions to use reflection, prior to identifying another person's emotional state. In future experiments, one might usefully first have children identify the others' emotional state, and then give them additional instructions for reflection.

References

- Carlson, S. M., & Zelazo, P. D. (2014). *Minnesota Executive Function Scale: Test Manual*. Reflection Sciences, Inc. Saint Paul, MN.
- Hoffman, M.L. (1989). Empathic emotions and justice in society. *Social Justice Research, 3(4)*, 283-311.
- Jazaieri, H., McGonigal, K., Jinpa, T., Doty, J.R., Gross, J.J., & Goldin, P.R. (2014). A randomized controlled trial of compassion cultivation training: effects on mindfulness, affect, and emotion regulation. *Motivation and Emotion*, 38, 23-35.
- Zelazo, P.D. (2015). Executive function: reflection, iterative reprocessing, complexity, and the developing brain. *Developmental Review*, 38, 55-68.